

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

| | | |
|----------------------------|------------------------------------|---------------|
| Lake: HUNKINS POND | Lake Area (ha): | 5.99 |
| Town: SANBORNTON | Maximum depth (m): | 7.0 |
| County: Belknap | Mean depth (m): | 4.2 |
| River Basin: Merrimack | Volume (m ³): | 253500 |
| Latitude: 43°30'20" N | Relative depth: | 2.5 |
| Longitude: 71°33'30" W | Shore configuration: | 1.15 |
| Elevation (ft): 785 | Areal water load (m/yr): | 8.14 |
| Shore length (m): 1000 | Flushing rate (yr ⁻¹): | 1.90 |
| Watershed area (ha): 101.0 | P retention coeff.: | 0.58 |
| % watershed ponded: 0.0 | Lake type: | natural w/dam |

BIOLOGICAL:

15 January 1990

5 July 1989

| | | |
|------------------------------------|--------------------|-----------------------|
| DOM. PHYTOPLANKTON (% TOTAL) #1 | SYNURA 75% | CERATIUM 85% |
| #2 | DINOBYRON 25% | |
| #3 | | |
| PHYTOPLANKTON ABUNDANCE (cells/mL) | | 25685.0 |
| CHLOROPHYLL-A (µg/L) | | 19.49 |
| DOM. ZOOPLANKTON (% TOTAL) #1 | DAPHNIA 33% | DAPHNIA 43% |
| #2 | KERATELLA 30% | CYCLOPOID COPEPOD 27% |
| #3 | NAUPLIUS LARVA 23% | |
| ROTIFERS/LITER | 29 | 22 |
| MICROCRUSTACEA/LITER | 61 | 89 |
| ZOOPLANKTON ABUNDANCE (#/L) | 97 | 111 |
| VASCULAR PLANT ABUNDANCE | | Scattered |
| SECCHI DISK TRANSPARENCY (m) | | 2.0 |
| BOTTOM DISSOLVED OXYGEN (mg/L) | 2.3 | 0.4 |
| BACTERIA (fecal col., #/100 ml) #1 | | 40 |
| #2 | | < 10 |
| #3 | | |

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 2.7
Hypolimnion volume (m³): 49500

CHEMICAL:

Lake: HUNKINS POND

Town: SANBORTON

| | 15 January 1990 | | 5 July 1989 | | |
|-------------------------------|-----------------|-------|-------------|-------|--------|
| DEPTH (m) | 2.5 | 5.0 | 1.0 | 3.5 | 5.5 |
| pH (units) | 7.0 | 7.0 | 7.9 | 7.6 | 6.0 |
| A.N.C. (Alkalinity) | 26.9 | 27.8 | 20.1 | 21.1 | 27.3 |
| NITRATE NITROGEN | 0.09 | 0.08 | < 0.05 | | < 0.05 |
| TOTAL KJELDAHL NITROGEN | 1.47 | 1.37 | 0.70 | 1.09 | 2.36 |
| TOTAL PHOSPHORUS | 0.043 | 0.039 | 0.021 | 0.063 | 0.122 |
| CONDUCTIVITY (μ mhos/cm) | 134.8 | 134.1 | 113.8 | 113.7 | 134.4 |
| APPARENT COLOR (cpu) | 26 | 23 | 23 | 50 | 50 |
| MAGNESIUM | | | 1.47 | | |
| CALCIUM | | | 7.0 | | |
| SODIUM | | | 9.0 | | |
| POTASSIUM | | | 4.40 | | |
| CHLORIDE | 18 | 18 | 17 | | 17 |
| SULFATE | 4 | 4 | 5 | | 3 |
| TN : TP | 36 | 37 | 33 | | 19 |
| CALCITE SATURATION INDEX | | | 1.3 | | |

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1989

D.O. S.D. PLANT CHL TOTAL CLASS

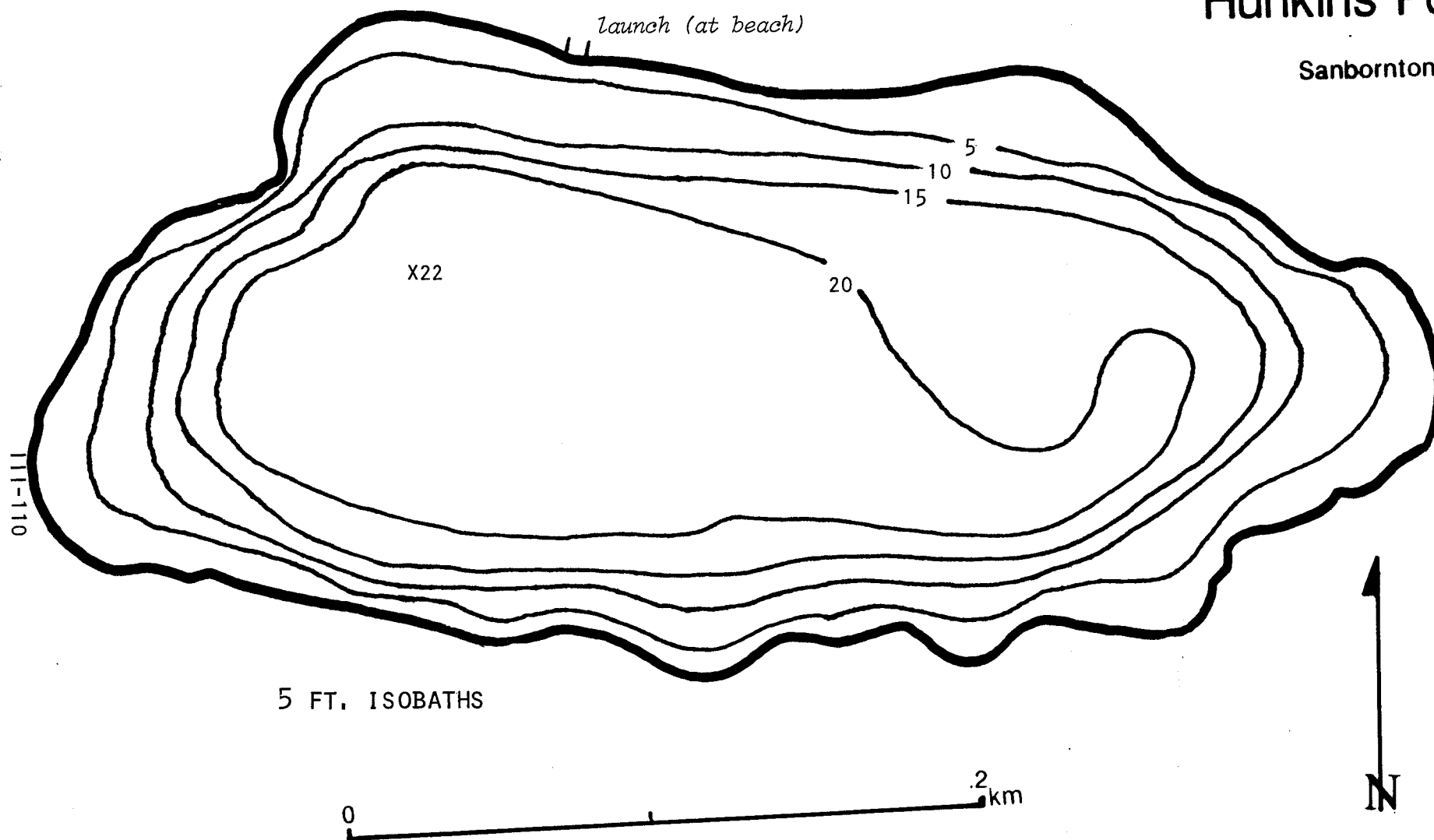
| | | | | | |
|---|---|---|---|----|--------|
| 6 | 4 | 1 | 4 | 15 | Eutro. |
|---|---|---|---|----|--------|

COMMENTS:

1. Pond has both a state and a municipal boat ramp.
2. A dairy farm was located at the western end of the pond, and cows were in the pond drinking the water.
3. Three to four cottages were on the shore.
4. This is a typical stratified eutrophic pond, with extremely high phosphorus levels in the anoxic bottom waters. Algae levels were high and the entire hypolimnion was devoid of dissolved oxygen. Cations (calcium, magnesium, sodium, and potassium) and chloride levels were much higher than the median for NH lakes and ponds.
5. Cosmarium (70%) and Tetraëdron (15%) were the dominant whole-water phytoplankton.

Hunkins Pond

Sanbornton



ROUGH BATHYMETRIC CHART
SOUNDED BY FATHOMETER
DES - 1989

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COMMENTS:

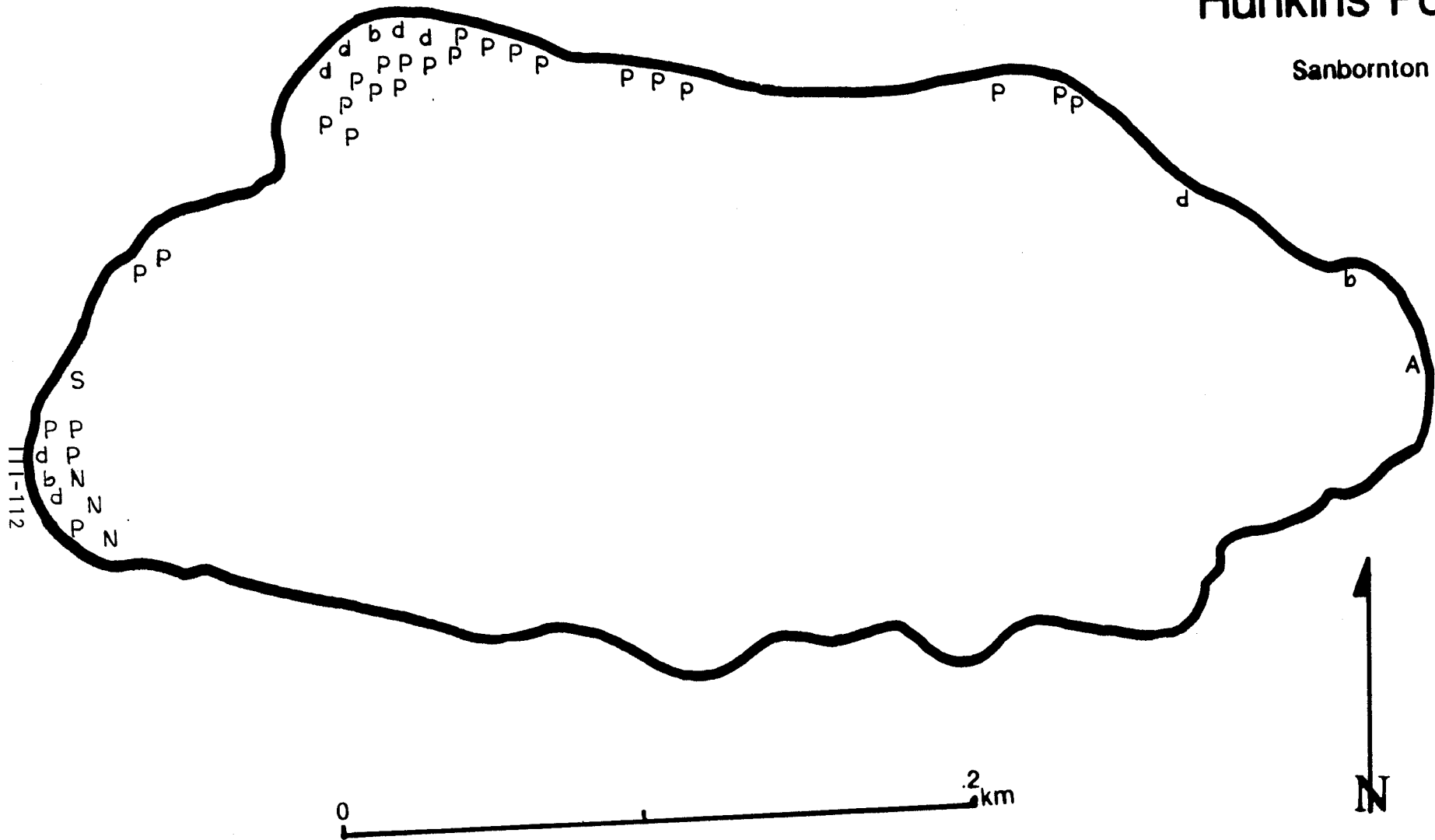
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AQUATIC PLANT DISTRIBUTION

Hunkins Pond

Sanbornton



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